



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

(5)
D3391-025
Job Sheet 168762



Part No: D3391-025

Job Qty: 1 ea

Part Name: Aft Tube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/22/17

Job Tracking No:

Due Date: 12/8/17

Created By: Marie Lajeunesse

Type: Stock

Description:

Customer: Falcon Aviation Services (CFALC01)

PO Box 62030 Abu Dhabi, , United Arab Emirates ph:011 971 50 445 0187 fx:+971 2 444 0022.

Note: DWG REV J SHEETS 9,10,11 IPP Rev B 06-02-07 ECN773 dwg rev. D EC IPP Rev:C 06-03-28 Update
Manuf. Instructions JLM IPP rev D 07.03.20 revF dwg EC IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified
by: DD IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC IPP Rev:G 08-09-10 revH as per dwg DD verified
by:EC IPP Rev:H 11.11.14 AS PER REV.I DD verified by:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup	Run	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	12/7/17	12/7/17	0.00	0.00	Start Up Crosstubes		PMP
100	Mori Seiki	1 pcs	12/7/17	12/7/17	2.49	4.17	Mori Seiki TL-40		PMP
110	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC2		PMP
112	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC5		2.88
120	CNC Vertical Machining	1 pcs	12/7/17	12/7/17	0.00	2.63	HAAS 1		K+ 17-12-02
130	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC2		K+ 17-12-02
140	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC8		17/12/104
150	Skidtubes	1 pcs	12/7/17	12/7/17	0.00	1.03	Skidtubes		MKG
160	CNC Bend Skidtubes	1 pcs	12/7/17	12/7/17	0.00	1.33	CNC Bend Skidtube		MKG
170	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC5		BE
180	Skidtubes	1 pcs	12/7/17	12/7/17	0.00	1.03	Skidtubes		MKG
190	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC5		17-12-21/16
200	HandFinish	1 pcs	12/7/17	12/7/17	0.00	0.58	HandFinish1		2017-12-01/58
210	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC7		DP2
220	Skidtubes	1 pcs	12/7/17	12/7/17	0.00	1.41	Skidtubes		MKG
230	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC5		
235	HandFinish	1 pcs	12/7/17	12/7/17	0.00	0.58	HandFinish2		
240	Spray Paint	1 pcs	12/7/17	12/7/17	0.00	0.25	Spray Paint		POOSG676
250	QC	1 pcs	12/7/17	12/7/17	0.00	0.00	QC14		18-01-05
260	HandFinish	1 pcs	12/8/17	12/8/17	0.00	0.58	HandFinish4		18-01-00
270	QC	1 pcs	12/8/17	12/8/17	0.00	0.00	QC5		18-1-9
280	Packaging	1 pcs	12/8/17	12/8/17	0.00	0.00	Packaging3		18-01-09
290	QC21-SA	1 Ea	12/8/17	12/8/17	0.00	0.00	QC21		JAN 09 2018

Part Op 100 - Turn as per Folio FA599 Rev: 4A & Dwg D3391 Rev: 1 ***ensure steady rest is turning true*** *****REMOVE
Descriptions: STEADY REST AND MACHINIG MARKS****

120 - 1-Machine as per Folio FA 599 Rev: ____ & Dwg D3391 Rev: ____

140 - ***INSPECT INSIDE BORE***

150 - 1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

160 - Form as per Dwg D3391 Using Bend Prog 3391025 3.99

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order No: _____		AGAINST DEPARTMENT/PROCESS	
rk ☐ ap ☐ is ☐ ed ☐		Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐
Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		Engineering ☐ Quality ☐ Other ☐	
QTY Effective : _____		MRB (QSI042) Approval	
Disposition		Completed By	
Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval	
FAULT CATEGORY		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	
Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	

Dart Aerospace Ltd.

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date

Mfg Date: 11/27/17

Job No: 168762

D3391 - 025

Start up Operation

DART AEROSPACE

S014116



Aft Tube Assembly

PART NO:

Revision:

Operation:

Change No:

Wave/Twist in Tube
Marks/Chatter

OTHER :

Substation

Process Improvement

Manufacturing Process

Past Due

Past Expiry Date

Misidentified

180 - 1-Open Aft cap pilot hole to .208" as per Dwg D3391 2-Drill float bag holes using DT8809 as per Dwg D3391 (Holes marked "A" Only. 3-Drill wearplate holes as per Dwg D3391 using DT8878 (Mid Tube) & DT8217 Wearplate Jig . *****Do Not Open To Finished Size***** 4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes. 5-Open wearplate holes to 0.297" and c'bore as per dwg D3391 6-Open up all float bag holes to 0.328" and c'sink as per Dwg D3391. 8- Scribe batch # on fwd end

220 - 1- Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: M137712 exp. date: 2018-01 cure time 12hrs as per QSI0015 2- Grind crossbolts flush 3- Back drill using #9 drill 4- Touchup Magnabond 5- Debur

235 - AND REALODINE AS PER PAR09-043

240 - PRIME AS PER DWG AND QSI005 4.2.1.3.3

260 - 1-Install inserts as per Dwg D3391 2-Install Aft Cap as per Dwg D3391 A/ R Sikaflex-241/-291 _____
Sikaflex expiry date: _____ 3- INSTALL WEARPLATES AS PER DWG

290 - 5- Detail DD, open (5) forward wearplate holes 0.375", then use DT10247 and drill holes for nutplates and c'sink. 6-Open wearplate holes to 0.297" and c'bore as per dwg D3391. ***SIX FARTHEST AFT HOLES ONLY*** 7-Open up all float bag holes to 0.328" and c'sink as per Dwg D3391. 8-Debur 9- Scribe batch # on fwd end

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D6014-090 <u>B139426</u>	1	36	0	0
220-Skidtubes	D3670-4-200 <u>5021404</u>	4	78	0	0
260-HandFinish	ALS4-1032-130 <u>5007279</u>	8	12,098	0	0
	D4095-047 <u>5025094</u>	1	2	0	0
	D4095-049 <u>5018296</u>	1	28	0	0
	MS20601-AD4W3 <u>5016824</u> <u>12</u>	1	47	0	0
	MS20601-AD4W7 <u>M137148</u> <u>813</u>	1	305	0	0
	MS21075L5 <u>Fm 138042</u> <u>10</u>	1	672	0	0
270-QC <u>FM135990-2</u>	ALS4-1032-225	4	1,836	0	0
	AN3C4A <u>5019394</u>	6	1,093	0	0
	AN3C5A <u>5019396</u>	4	280	0	0
	D2646 <u>F164005</u>	1	152	0	0
	D3672-1 <u>F150074</u>	2	1,741	0	0
	NAS1149C0332R <u>5027570</u>	10	3,419	0	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																											
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DART AEROSPACE LTD		Work Order:	168762
Description: Float Skidtube (412)		Part Number:	D3391-3
Inspection Dwg: D3391 Rev: J		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

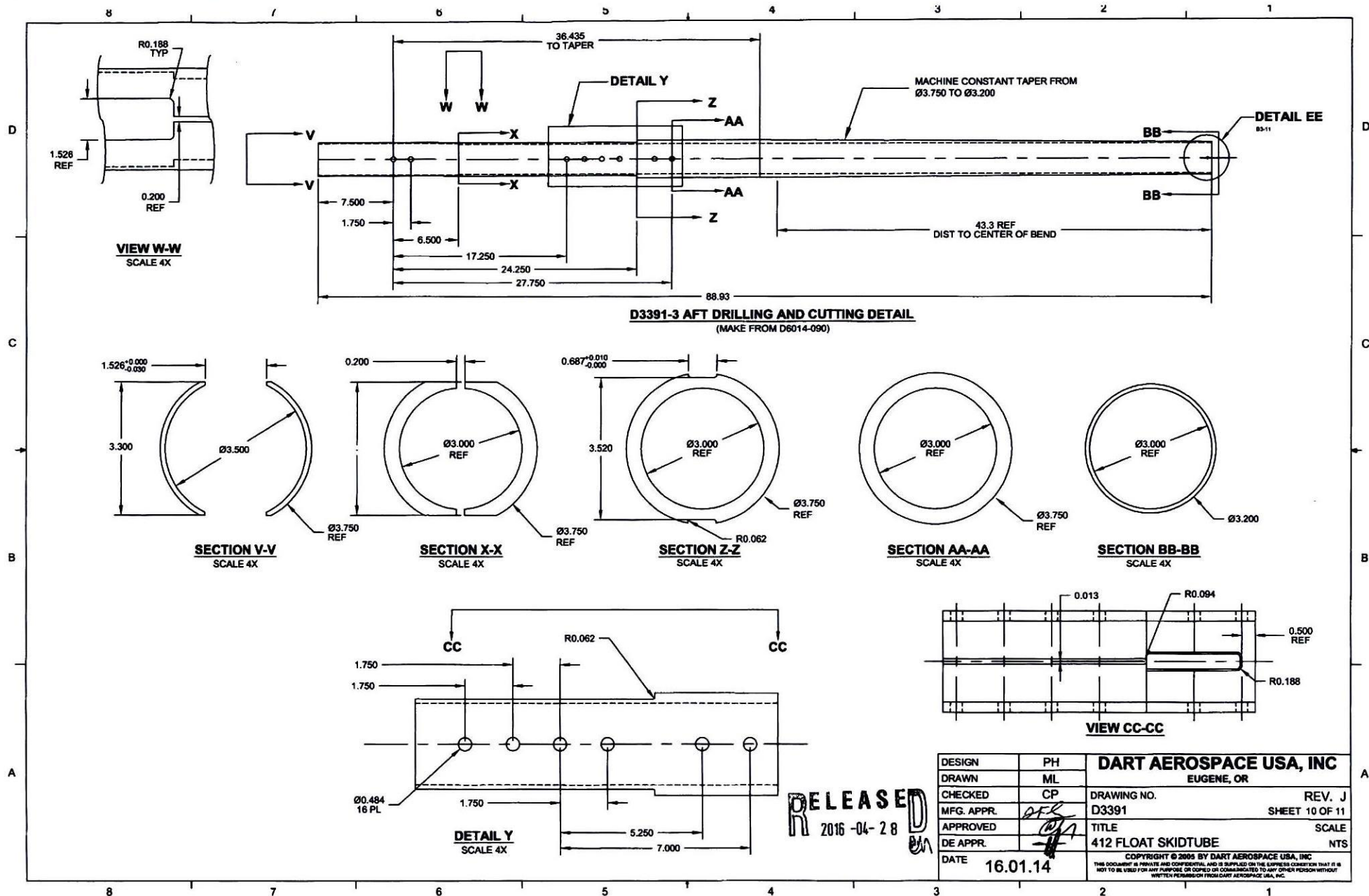
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.0	✓		+APE	
3.500	+/-0.010	3.503	✓		VERNO8	
Ø3.200	+/-0.010	3.195	✓			
Ø3.750	+/-0.010	3.750	✓			
30° x 0.060 chamfer	+/-0.010	30° x 0.070	✓			
88.93	+/-0.030	88.93	✓		TAPE	

Measured by: PMP	Date: 2017-11-27
Audited by:	Date:

HAAS Section						
1.526	+0.000/-0.030	1.510	✓		vern	
7.500	+/-0.010	7.500	✓		vern	
27.750	+/-0.010	27.750	✓		tape	
31.750	+/-0.010	31.750	✓		" "	
35.250	+/-0.010	35.256	✓		" "	
3.300	+/-0.010	3.300	✓		vern	
0.200	+/-0.010	0.200	✓		" "	
3.520	+/-0.010	3.520	✓		micro	
0.687	+0.010/-0.000	0.689	✓		vern	
R0.062	+/-0.010	0.0625	✓		R-G	
Ø0.484	+0.005/-0.004	0.484	✓		plm	

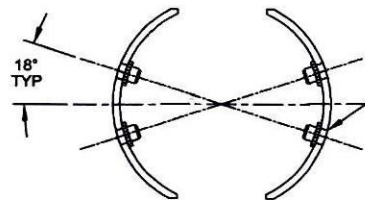
Measured by: 1 9-89 DAS	Date: 17-12-02
Audited by: 14-12-02 9-89	Date: 17/12/02

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	
I	12.05.15	Dwg Rev updated	KJ	
J	12.05.23	Dimension updated	KJ	
K	12.10.15	88.93 dimension removed	KJ	
L	12.11.28	88.93 dimension added	KJ	
M	16.06.23	Dimensions updated per Rev J	KJ	



RELEASED
2016-04-28

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	DEF	D3391	SHEET 10 OF 11
APPROVED	CPA	TITLE	SCALE
DE APPR.	DEF	412 FLOAT SKIDTUBE	NTS
DATE	16.01.14	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

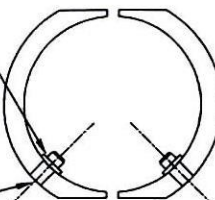


SECTION S-S D6-8.9
SCALE 5X

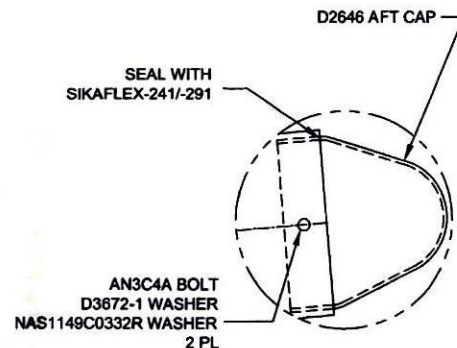
DRILL Ø0.391
CBORE Ø0.516 X 0.040 DEEP
INSTALL ALS4-428-165 INSERT
4 PL

USE DT8217 DRILL TEMPLATE
TO LOCATE HOLES AND OPEN
TO Ø0.375

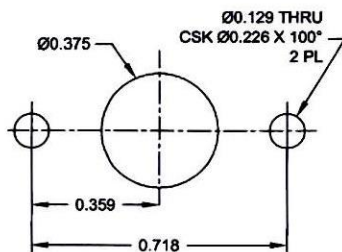
MS21075L5 NUTPLATE
REF



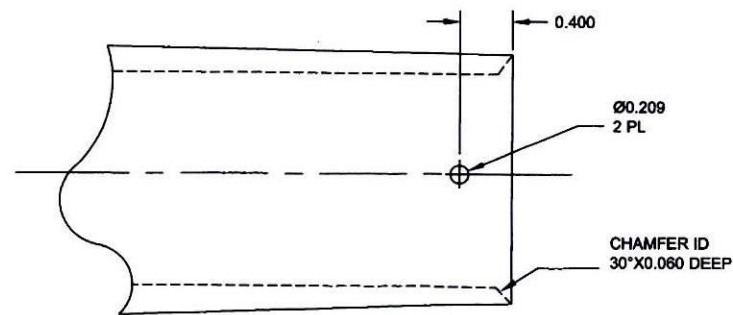
SECTION T-T D6-8.9
SCALE 5X
5 PL



DETAIL U D1-8.9
SCALE 5X



DRILLING DETAIL DD D7-8.9
SCALE 10X



DETAIL EE D1-11
SCALE 2X

NOTES:
1) USE INDUSTRY STANDARD NUT PLATE DRILL JIG IF REQUIRED.

RELEASED
2016-04-28

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	ML	EUGENE, OR	
CHECKED	CP	DRAWING NO.	REV. J
MFG. APPR.	PR	D3391	SHEET 11 OF 11
APPROVED	PR	TITLE	SCALE
DE APPR.	PR	AFT TUBE ASSEMBLY	NTS
DATE	16.01.14	COPYRIGHT © 2006 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	